

TO: Kristie Warr

FROM: Rick Haaker, CHP, CIH

SUBJECT: Review of Las Conchas Fire Work Order 11-07025

DATE: 7/20/2011

This is a correction to a review that was provided on 7/19/2011. The discussions concerning table 2 and the sample volumes were affected by this revision.

The data were reviewed for accuracy, completeness, and any apparent issues. During data review a qualifier "UB" was assigned if the activity result is less than five times the activity result of the method blank. A "UB" qualifier denotes that an analyte is non-detect due to lack of activity relative to a blank concentration. Unused filters from the same lot as the sample filters were used as the method blank. The analytes in Table 1 were detected in the method blank, and all samples are affected.

Table 1. Analytes detected or tentatively detected in the method blank and data qualifiers based on the blank.

| Isotope | Assigned Qualifier |
|-------------|--------------------|
| GROSS ALPHA | J |
| GROSS BETA | |
| TOTAL SR | |
| U-234 | |
| U-235 | |
| U-238 | |

Data without a UB qualifier was further reviewed.

A "U" was assigned to the Assigned Qualifier column when result was less than 50% of the MDA. In this case the analytical result was assigned to be one-half of the MDA in the "ValidatedResult" column. The validated result should be considered an upper bound estimate in this case.

A "J" was assigned if the result was between 0.5 of the MDA and the MDA. The validated result is the reported result. The validated result represents an estimated value in this case.

A “JH” or “JL” would be based on percent recovery (the "RadioPercentRec", “GravPercentRec” and the “LCSpercentR” columns of the Eberline Services report. Recoveries below 70% would result in a JL to denote the result is estimated with a low bias. Recoveries above 130% would result in assignment of a JH to denote that the result is estimated with a high bias.

Table 2 lists samples that exhibited percent recoveries outside of the acceptance range.

Table 2. Samples with recoveries outside of the acceptance range.

| Isotope | ClientID | RadioPercentRec | Assigned Qualifier |
|---------|------------------------|-----------------|--------------------|
| AM-241 | A008-110703-0723-1-T02 | 54.43 | UB |
| AM-241 | A010-110703-0747-1-T01 | 68.59 | UB |
| PU-238 | A008-110701-1019-1-T02 | 62.55 | U |
| PU-238 | A009-110702-0600-1-T01 | 63.32 | U |
| PU-238 | A009-110703-0615-1-T01 | 69.1 | U |
| PU-238 | A010-110703-0747-1-T01 | 48.94 | U |
| PU-238 | A011-110702-0740-1-T01 | 52.82 | U |
| PU-238 | A011-110703-0741-1-T01 | 64.66 | U |
| PU-238 | A012-110703-0819-2-T01 | 46.66 | JL |
| PU-238 | A012-110703-0824-1-T01 | 60.03 | U |
| PU-239 | A008-110701-1019-1-T02 | 62.55 | UB |
| PU-239 | A009-110702-0600-1-T01 | 63.32 | U |
| PU-239 | A009-110703-0615-1-T01 | 69.1 | UB |
| PU-239 | A010-110703-0747-1-T01 | 48.94 | UB |
| PU-239 | A011-110702-0740-1-T01 | 52.82 | UB |
| PU-239 | A011-110703-0741-1-T01 | 64.66 | U |
| PU-239 | A012-110703-0819-2-T01 | 46.66 | UB |
| PU-239 | A012-110703-0824-1-T01 | 60.03 | U |
| U-234 | A012-110703-0819-2-T01 | 135.93 | UB |
| U-235 | A012-110703-0819-2-T01 | 135.93 | UB |
| U-238 | A012-110703-0819-2-T01 | 135.93 | UB |

The assigned data qualifiers are found in column “AssignedQualifier”.

The effective air volume for the various analytes of the various air samples in cubic meters are provided in the column “AliquotNetEquiv”.

Note that the blank results are in pCi/m³. The volume that Eberline Services assigned to the blanks for a given analyte are the average of the effective volumes for the samples in the sample set for that analyte.

Air volumes that were collected in this sample were in the range of 479 to 1015 cubic meters.

The period of time between collection of air samples and gross alpha/beta counting was eight to nine days, so those results are unlikely to include an activity contribution due to the presence of radon daughters.

The EDD provided by Eberline Services on July 18, 2011 contained self-contradictory sample dates and some did not agree with the collection dates provided on the chain of custody No: 6-070311-161515-0003. In particular two samples had two different sample dates listed in the EDD as indicated in Table 3. The sample dates in the EDD need to be corrected to 7/3/2011 before the data is loaded into SCRIBE.

Table 3. List of Samples and Sample Dates.

| ClientID | SampleDate |
|------------------------|------------|
| A008-110703-0723-1-T02 | 7/2/2011 |
| A008-110703-0723-1-T02 | 7/3/2011 |
| A009-110703-0615-1-T01 | 7/2/2011 |
| A009-110703-0615-1-T01 | 7/3/2011 |

No discrepancies were found in the transcription of sample IDs or sample volumes from the chain of custody to the EDD.